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**YOUTH TRANSITION INTO THE WORKPLACE
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YOUTH SUBSTANCE USE/ABUSE PREVENTION

Botvin, G.J., E. Baker, L. Dusenbury, E.M. Botvin, and T. Diaz. 1995. "Long-term Follow-up Results of a Randomized Drug Abuse Prevention Trial in a White Middle-Class Population." *Journal of the American Medical Association* 273(14):1106-1112.

The authors evaluated the long-term efficacy of a school-based approach to drug abuse prevention. To do so, they conducted a randomized trial involving 56 public schools that received the prevention program with annual provider training workshops and ongoing consultation, the prevention program with videotaped training and no consultation, or "treatment as usual" (i.e., controls). Follow-up data were collected 6 years after baseline using school, telephone, and mailed surveys. The sample included a total of 3,597 predominantly White, twelfth-grade students who represented 60.41 percent of the initial seventh-grade sample. The intervention consisted of 15 classes in seventh grade, 10 booster sessions in eighth grade, and 5 booster sessions in ninth grade and taught general "life skills" and skills for resisting social influences to use drugs. Six tobacco, alcohol, and marijuana use self-report scales were recoded to create nine dichotomous drug use/outcome variables and eight polydrug use variables. The authors found significant reductions in both drug and polydrug use for the two groups that received the prevention program relative to controls. The strongest effects were produced for individuals who received a reasonably complete version of the intervention: there were up to 44 percent fewer drug users and 66 percent fewer polydrug (tobacco, alcohol, and marijuana) users. Overall, the authors concluded that drug abuse prevention programs conducted during junior high school can produce meaningful and durable reductions in tobacco, alcohol, and marijuana use if they (1) teach a combination of social resistance skills and general life skills, (2) are properly implemented, and (3) include at least 2 years of booster sessions.

Ellickson, P.L., R.M. Bell, and K. McGuigan. 1993. "Preventing Adolescent Drug Use: Long-Term Results of a Junior High Program." *American Journal of Public Health* 83(6):856-861.

Although several studies have reported short-term gains for drug-use prevention programs targeted at young adolescents, few have assessed the long-term effects of such programs. Such information is essential for judging how long prevention benefits last. As a result, the authors reported results over a 6-year period for a multisite randomized trial that achieved reductions in drug use during the junior high school years. The 11-lesson curriculum, which was tested in 30 schools in eight highly diverse West Coast communities, focused on helping seventh and eighth grade students develop the motivation and skills to resist drugs. Schools were randomly assigned to treatment and control conditions. About 4,000 students were assessed in grade 7 and six times thereafter through grade 12. Program effects were adjusted for pretest covariates and school effects. Once the lessons stopped, the program's effects on drug use stopped. Effects on cognitive risk factors persisted for a longer time (many through grade 10) but were not sufficient to produce corresponding reductions in use. The authors concluded that it is unlikely that early prevention gains can be maintained without additional prevention efforts during high school. Future research is needed, they say, to develop and test such efforts.

Ennett, S.T., N.S. Tobler, C.L. Ringwalt, and R.L. Flewelling. 1994. "How Effective is Drug Abuse Resistance Education? A Meta-Analysis of Project DARE Outcome Evaluations." *American Journal of Public Health* 84(9):1394-1401.

Project DARE (Drug Abuse Resistance Education) is the most widely used school-based drug use prevention program in the United States, but the findings of rigorous evaluations of its effectiveness have not been considered collectively. As a result, the authors of this article used meta-analytic techniques to review eight methodologically rigorous DARE evaluations. Weighted effect size means for several short-term outcomes also were compared with means reported for other drug use prevention programs. The DARE effect size for drug use behavior ranged from .00 to .11 across the eight studies; the weighted mean for drug use across studies was .06. For all outcomes considered, the DARE effect size means were substantially smaller than those of programs emphasizing social and general competencies and using interactive teaching strategies. The authors concluded that DARE's short-term effectiveness for reducing or preventing drug use behavior is small and is less than for interactive prevention programs.

Flay, B.R., D. Koepke, S.J. Thomson, S. Santi, J.A. Best, and K.S. Brown. 1989. "Six-Year Follow-up of the First Waterloo School Smoking Prevention Trial." *American Journal of Public Health* 79(10):1371-1376.

The authors reported 6-year follow-up data from the first large-scale randomized trial of the social influences approach to smoking prevention. In 1979, 22 schools were randomly assigned to program or control conditions. Students in program schools received a social influences curriculum in six core and two maintenance sessions in grade 6, two booster sessions in grade 7, and one booster session in grade 8. All students were assessed at pretest (T1), immediate posttest (T2), end of grade 6 (T3), beginning and end of grade 7 (T4 and T5), end of grade 8 (T6), and grades 11 and 12 (T7 and T8). Ninety percent of study students were relocated and data obtained from over 80 percent of them at T8. Program effects on experimental smoking observed in grades 7 and 8 had completely decayed by T8, 6 years after the beginning of the program. Grade 6 smoking experience and social risk were each strong predictors of T8 smoking behavior. Subjects who had left school were smoking at more than twice the rate of subjects still in high school (grade 12) at T8. The authors discuss implications of the results.

Komro, K.A., C.L. Perry, D.M. Murray, S. Veblen-Mortenson, C.L. Williams, and P.S. Anstine. 1996. "Peer-Planned Social Activities for Preventing Alcohol Use among Young Adolescents." *Journal of School Health* 66(9):328-334.

The Project Northland peer participation program tested the feasibility of involving students in the planning and promotion of alcohol-free social activities for their peers and to determine whether such participation was associated with reduced alcohol use. The peer program was offered in 20 northeastern Minnesota schools when the study cohort was in seventh grade; students completed a survey in the beginning of sixth grade and at the end of sixth grade and seventh grade. Nearly 50 percent of the study cohort participated in the program. At the end of seventh grade, after controlling for confounders, an association was observed between student involvement with planning activities and a lower rate of alcohol use. This association was strongest among students who had reported alcohol use at the beginning of sixth grade. This

cohort study suggests adolescent involvement in planning their own alcohol-free activities may be an efficacious strategy to prevent or reduce the prevalence of alcohol use among youth. Future studies are warranted to evaluate this association using experimental research designs.

Sorohan, E.F. 1995. "Parents Preventing Drug Abuse." *Training & Development* 49(8):14.

In 1993 and 1994, the Work in America Institute ran a nationwide pilot of the Parent Connection, a substance abuse prevention program. The program consists of five 1-hour seminars designed to involve parents in substance abuse prevention for their children by teaching parents communication skills. In this article, the Institute reports that the workplace is a setting in which parents can learn how to steer their children away from substance abuse. Nine hundred blue- and white-collar employees from 12 different companies participated. Nine of the 12 companies continued to offer the program after the pilot period ended.

Tobler, N.S. 1986. "Meta-Analysis of 143 Adolescent Drug Prevention Programs: Quantitative Outcome Results of Program Participants Compared to a Control or Comparison Group." *Journal of Drug Issues* 16(4):537-567.

This study presents a meta-analysis of the outcome results for 143 adolescent drug prevention programs to identify the most effective program modalities for reducing teenage drug use. The meta-analysis techniques used by Glass et al. (1981) provided a systematic approach for the accumulation, quantification, and integration of the numerous research findings. Five major modalities were identified and their effect sizes computed for five distinctly different outcomes: Knowledge, Attitudes, Use, Skills, and Behavior measures. The magnitude of the effect size was found dependent on the outcome measure employed and the rigor of the experimental design. These factors were controlled for through use of a standard regression analysis. Peer Programs were found to show a definite superiority for the magnitude of the effect size obtained on all outcome measures. On the ultimate criteria of drug use, Peer Programs were significantly different than the combined results of all the remaining programs ($p < .0005$). Peer Programs maintained high effect size for alcohol, soft drugs and hard drugs, as well as for cigarette use. Recommendations are made concerning the effectiveness of the underlying theoretical assumption for the different program modalities. Future programming implications are discussed as Peer Programs were identified as effective for the average school-based adolescent population, but the Alternatives programs were shown to be highly successful for the at-risk adolescents such as drug abusers, juvenile delinquents, or students having school problems.

Tobler, N.S., and H.H. Stratton. 1997. "Effectiveness of School-Based Drug Prevention Programs: A Meta-Analysis of the Research." *Journal of Primary Prevention* 18:71-128.

Effectiveness of different types of drug prevention programs was examined in a meta-analysis of 120 school-based programs (fifth through twelfth) that evaluated success on self-reported drug use measures. The authors conducted hypothesis tests using Weighted Least Squares regressions of an a priori classification scheme that was based on program content and its method of delivery. Two major types of programs were identified: Interactive and Non-

Interactive. Six factors related to program effectiveness (sample size, targeted drug, type of control group, special populations, type of leader, and attrition) were included as covariates. The superiority of the Interactive programs was both clinically and statistically significant to the Non-Interactive programs for tobacco, alcohol, marijuana, and illicit drugs and for all adolescents including minority populations. The larger Interactive programs were less effective, although still significantly superior to the Non-Interactive programs, which suggests implementation failures.

Wodarski, J.S., and M.D. Feit. 1997. "Adolescent Preventive Health: A Social and Life Group Skills Paradigm." *Family Therapy* 24(3):191-208.

The problematic behaviors of teenagers and the negative consequences are extensive and well documented: unwanted pregnancy, substance abuse, violent behavior, depression, and social and psychological consequences of unemployment. In this article, the authors define prevention and elucidate primary approaches. Skills an adolescent must master, such as social, cognitive, and academic, which should provide the focus for intervention from a life-span development perspective, are reviewed. Also, issues are raised that relate to implementation of group prevention strategies for adolescents, including cognitive aspects, social and family networks, and intervention components. The areas covered are adolescent development, sexuality education, psychoactive substance use, anger control, coping with depression and suicide, comprehensive employment preparation, and family intervention. The Life Skills Training approach is proposed as the treatment of choice. The paradigm has a rationale and elements in common with other prevention programs that are based on a public health orientation and comprise the essential components of health education, skills training, and practice in applying skills. The Teams-Games-Tournaments model comprises the same components except that peers are used as teachers. The research base of the social skills paradigm is reviewed and evaluated according to the topics presented.

PREVALENCE, RISK FACTORS, AND CORRELATES OF YOUTH SUBSTANCE USE/ABUSE

Bauman, K.E., and S.T. Ennett. 1996. "On the Importance of Peer Influence for Adolescent Drug Use: Commonly Neglected Considerations." *Addiction* 91(2):185-198.

Peer influence is generally believed to be a major cause of adolescent drug behavior. The authors reviewed research findings on friend selection and projection to suggest that the magnitude of friend influence may be overestimated. The authors also observed that, although adolescent drug use is assumed to begin in response to peer group influence, peer groups have rarely been measured in studies of drug behavior. Social network analysis is identified as a promising method for measuring peer groups. The authors conclude by considering the implications of this review for research and programs.

Bierut, L.J., S.H. Dinwiddie, H. Begleiter, R.R. Crowe, V. Hesselbrock, J.I. Nurnberger, B. Porjesz, M.A. Schuckit, and T. Reich. 1998. "Familial Transmission of Substance Dependence: Alcohol, Marijuana, Cocaine, and Habitual Smoking: A Report from the Collaborative Study on the Genetics of Alcoholism." *Archives of General Psychiatry* 55(11):982-994.

Chen, K., and D.B. Kandel. 1995. "The Natural History of Drug Use from Adolescence to the Mid-Thirties in a General Population Sample." *American Journal of Public Health* 85(1):41-47.

This study sought to describe patterns of initiation, persistence, and cessation in drug use in individuals from their late-20s to their mid-30s, within a broad perspective that spans 19 years from adolescence to adulthood. A fourth wave of personal interviews was conducted at ages 34-35 with a cohort of men and women (n = 1160) representative of adolescents formerly enrolled in New York State public secondary high schools. A school survey was administered at ages 15-16, and personal interviews with participants and school absentees were conducted at ages 24-25 and 28-29. Retrospective continuous histories of 12 drug classes were obtained at each follow-up. There was no initiation into alcohol and cigarettes and hardly any initiation into illicit drugs after age 29, the age at which most use ceased. The largest proportion of new users was observed for prescribed psychoactives. Periods of highest use since adolescence based on relative and absolute criteria were delineated. Among daily users, the proportions of heavy users declined for alcohol and marijuana but not for cigarettes. Cigarettes are the most persistent of any drug used. Drug-focused interventions must target adolescents and young adults.

Chen, K., and D.B. Kandel. 1998. "Predictors of Cessation of Marijuana Use: An Event History Analysis." *Drug and Alcohol Dependence* 50(2):109-121.

Event history analysis was applied to monthly life and drug histories of a representative community sample of 706 marijuana users, followed from ages 15-16 to 34-35, to investigate factors associated with cessation of marijuana use from adolescence to adulthood. In addition to age and gender, the most important determinants of cessation are the phenomenology of marijuana use, social role participation, depressive symptoms, and deviance. Frequent users, those who started using early, and those who use illicit drugs other than marijuana are more likely to continue their marijuana use. Using marijuana for social reasons accelerates cessation, whereas using marijuana to change one's mood reduces cessation. Becoming pregnant and a parent is the most important social role leading to marijuana cessation for women. There is also a very important experimental effect of the interview itself on the reported timing of a cessation. The effect of a social context favorable to marijuana use appears to reflect selection rather than social influence.

Chen, K., D.B. Kandel, and M. Davies. 1997. "Relationships between Frequency and Quantity of Marijuana Use and Last Year Proxy Dependence among Adolescents and Adults in the United States." *Drug and Alcohol Dependence* 46(1-2):53-67.

The association between levels of marijuana use and last-year dependence is investigated in a nationally representative sample of adolescents and adults, who used marijuana within the last year (n = 9284). Data were aggregated from three surveys (1991-1993) of the National

Household Survey on Drug Abuse. A proxy measure of DSM-IV dependence criteria was developed from self-reported symptoms of dependence and drug-related problems. Both frequency and quantity of marijuana use within the last year were linearly associated with the logic of the probability of being dependent on marijuana. The associations varied significantly by age but not gender. Adolescents were dependent at a lower frequency and quantity of use than adults: the differences diverged as level of use increased. Twice as many adolescents as adults who used marijuana near-daily or daily within the last year were identified as being dependent (35 percent versus 18 percent). Frequency and quantity of use each retained a unique effect on dependence, but frequency appeared to be more important than quantity in predicting last-year dependence. These results provide insight into the processes underlying the age and gender differentials observed in the prevalence of marijuana dependence. The implications of the findings for the epidemiology of marijuana use and dependence are discussed.

Clark, D.B., N. Pollock, O.G. Bukstein, A.C. Mezzich, J.T. Bromberger, and J.E. Donovan. 1997. "Gender and Comorbid Psychopathology in Adolescents with Alcohol Dependence." *Journal of the American Academy of Child & Adolescent Psychiatry* 36(9):1195-1203.

Although several mental disorders have been shown to be common in adolescents with substance use disorders, prior studies have not specifically focused on alcohol dependence and have not had sufficient sample sizes to examine gender effects. This study contrasts mental disorder diagnoses and symptoms between a sample of adolescents with alcohol dependence and a community control sample of adolescents and incorporates gender analyses.

Adolescents (aged 14 to 18 years) with alcohol dependence (females: $n = 55$; males: $n = 78$) and community-dwelling control adolescents without substance use disorders (females: $n = 44$; males: $n = 42$) were assessed by means of a semistructured interview for DSM-III-R. Although cannabis and hallucinogen use disorders were common in the alcohol dependence group, females and males had similar rates. Conduct disorder (CD), oppositional defiant disorder, attention-deficit hyperactivity disorder, major depression (MD), and posttraumatic stress disorder (PTSD) had significantly higher rates in the alcohol dependence group than in the community control group. Depression and PTSD symptoms were more strongly associated with alcohol dependence in females than in males. A configural frequency analysis showed that CD and MD tended to occur together in both female and male adolescents with alcohol dependence. While alcohol-dependent females and males similarly exhibited more comorbid disorders than control adolescents, gender affects the relationships of alcohol dependence to MD and PTSD. Rather than reflecting distinct types, the comorbid disorders of CD and MD jointly characterize many adolescents with alcohol dependence.

Cloninger, C.R. 1987. "Neurogenetic Adaptive Mechanisms in Alcoholism." *Science* 236(4800):410-416.

Clinical, genetic, and neuropsychopharmacological studies of developmental factors in alcoholism are providing a better understanding of the neurobiological bases of personality and learning. Studies of the adopted-away children of alcoholics show that the predisposition to initiate alcohol-seeking behavior is genetically different from susceptibility to loss of control after drinking begins. Alcohol-seeking behavior is a special case of exploratory appetitive behavior

and involves different neurogenetic processes than do susceptibility to behavioral tolerance and dependence on the anti-anxiety or sedative effects of alcohol. Three dimensions of personality have been described that may reflect individual differences in brain systems modulating the activation, maintenance, and inhibition of behavioral responses to the effects of alcohol and other environmental stimuli. These personality traits distinguish alcoholics with different patterns of behavioral, neurophysiological, and neuropharmacological responses to alcohol.

Cloninger, C.R., S. Sigvardsson, and M. Bohman. 1988. "Childhood Personality Predicts Alcohol Abuse in Young Adults." *Alcoholism, Clinical and Experimental Research* 12(4):494-505.

A total of 431 children (233 boys, 198 girls) born in Stockholm, Sweden, had a detailed behavioral assessment at 11 years of age, including a detailed interview with their schoolteachers, and were reevaluated at 27 years of age to identify alcoholism or alcohol abuse. Specific predictions from a neurobiological learning theory about the role of heritable personality traits in susceptibility to alcohol abuse were tested in this prospective longitudinal study. Three dimensions of childhood personality variation were identified and rated without knowledge of adult outcome. These three dimensions (novelty-seeking, harm avoidance, and reward dependence) were largely uncorrelated with one another, and each was predictive of later alcohol abuse. Absolute deviations from the mean of each of the three personality dimensions were associated with an exponential increase in the risk of later alcohol abuse. High novelty-seeking and low harm avoidance were most strongly predictive of early-onset alcohol abuse. These two childhood variables alone distinguished boys who had nearly 20-fold differences in their risk of alcohol abuse: the risk of alcohol abuse varied from 4 percent to 75 percent depending on childhood personality.

Cook, P.J., and M.J. Moore. 1993. "Drinking and Schooling." *Journal of Health Economics* 12(4):411-429.

The authors used National Survey of Longitudinal Youth data from 1979 through 1988 to examine the effects of drinking on educational attainment. Students who reported heavy drinking were less likely to attend college, attended fewer years of college, and graduated at a lower rate than their peers. Public policies aimed to restrict drinking, such as beer taxes and minimum legal drinking age, had a statistically significant effect on the likelihood that students would graduate with a 4-year degree, presumably because alcohol control measures deter underage students from drinking.

Dennis, M.L. 1990. "Assessing the Validity of Randomized Field Experiments: An Example from Drug Abuse Treatment Research." *Evaluation Review* 14(4):347-373.

According to the author of this article, randomized field experiments are often logistical failures. They are particularly difficult to implement when the intervention involves a large number of components or service providers. Although surmountable, potential methodological problems with using randomized experiments to evaluate intervention programs under field (i.e., real world) conditions must be anticipated and resolved for the experiment to succeed. The author examines six potential major problems: treatment dilution, treatment contamination or

confounding, inaccurate case flow and power estimates, violations of the random assignment process, changes in the environmental context, and changes in the treatment regimes. The author describes the general problems, several methodological developments related to them, and attempts to deal with these problems. Developing designs and implementation strategies to deal with these six problems is crucial to extending the usefulness of randomized field experiments to evaluate social policies and experiments.

Glantz, M.D., and R.W. Pickens. 1992. "Vulnerability to Drug Abuse: Introduction and Overview." In *Vulnerability to Drug Abuse*, M.D. Glantz and R.W. Pickens, eds., pp. 1-14. Washington, DC: American Psychological Association.

This book introduction offers an overview of current thinking about risk factors for substance abuse. Use of psychoactive substances is a fact of life; most adults have tried at least one psychoactive substance during their lifetimes. Efforts at all levels of government to curb illicit substance use can be effective, but in certain segments of the population (e.g., adolescents) the level of involvement with illicit substances has not changed much over time. The authors of this introduction are interested in users' vulnerability—why some people who use substances become abusers. Much of the early research on risk factors for abuse was marred by reliance on self-reports and a failure to examine the social and cultural context of substance abuse. There is no single "cause" of substance abuse—the factors that influence substance abuse are complex and varied, as are the pathways to abuse and the behavior patterns of abusers. The authors believe, however, that some of the risk factors that render an individual vulnerable to escalate from use to abuse are detectable before the individual tries drugs, and therefore preventable. Risk factors may be linked with various substances, so that, for example, an individual who is antisocial or transgressive will be less likely to abuse alcohol, which is available legally. Certain subgroups of the population may be more vulnerable to substance abuse, based on social and economic deprivation. Social attitudes, policies, economic conditions, and law-enforcement patterns contribute to the environment of substance abuse. Family history of drug abuse and certain psychopathologies (antisocial personality, conduct disorders, criminal behavior) also render individuals vulnerable to substance abuse. In general, substance use appears to be socially mediated (peer interactions) and abuse appears to be a function of biological or psychological processes. Two characteristics of substance use contribute strongly to the escalation to abuse: early age of first use and high-frequency use of substances.

Hawkins, J.D., R.F. Catalano, and J.Y. Miller. 1992. "Risk and Protective Factors for Alcohol and Other Drug Problems in Adolescence and Early Adulthood: Implications for Substance Abuse Prevention." *Psychological Bulletin* 112(1):64-105.

A risk-focused approach to drug abuse prevention holds promise for identifying effective prevention strategies. The following antecedents of adolescent drug use have been identified: favorable drug laws, availability of drugs, poverty, hyperactive or aggressive behavior, family history of or current family involvement with substance abuse, family conflict, insufficient family bonding, academic failure, lack of commitment to school, peer rejection, social pressures to use substances, alienation and rebelliousness, and early initiation of substance use. There is some evidence that positive protective factors (e.g., personal strengths, tight-knit family, strong social

bond) can help offset these risk factors, but more research is needed to tease out the complex interaction of risk and protective factors. Studies of the development of adolescent substance abuse suggest that viable prevention should consist of addressing risk factors in a number of social domains during the developmental period when each becomes a factor in future substance use. To date, most prevention efforts aimed at teens have addressed two risk factors: laws and social norms favorable to drug use and social influences to use drugs. The former has resulted in interdiction and stronger legal penalties, the latter in resistance skills training. Training adolescents to resist the influence of peer pressure can produce short-term decreases in rates of drug initiation, including smoking, alcohol, and marijuana. The authors favor a multicomponent approach to prevention that accounts for multiple risk and protective factors.

Johnstone, B.M. 1994. "Sociodemographic, Environmental, and Cultural Influences on Adolescent Drinking Behavior." In *The Development of Alcohol Problems: Exploring the Biopsychosocial Matrix of Risk*, NIAAA Monograph No. 26, R. Zucker, G. Boyd, and J. Howard, eds., pp. 169-204. Rockville, MD: U.S. Department of Health and Human Services.

This chapter reviews recent research on sociodemographic, environmental, and cultural influences on adolescent alcohol use. Although the author notes that there is a significant degree of consonance across research into sociodemographic predictors of alcohol use, he cautions against facile interpretation of results, especially with respect to ethnicity. Age is a powerful predictor of alcohol use; first use, rate of heavy alcohol use, and alcohol-related problems all increase with age during adolescence. Male adolescents are more likely than females to drink, to drink heavily, and to experience alcohol-related problems. Increasing religious commitment is associated with increasing abstinence from drinking. The effects of socioeconomic status on drinking in adolescents remain unclear and may be indirect or mediated by other characteristics. Environmental factors that are reviewed include societal level of alcohol consumption (individual consumption drops when societal consumption is thought to be dropping), rural/urban location (regional differences in alcohol consumption appear to be waning), and situational determinants of drinking behavior (teens drink more heavily when they are around heavy-drinking peers). The author reviews research on five different ways that culture affects drinking behavior in adolescents: cultural expectations for alcohol to play a role in the transition to adulthood, cultural beliefs about the role of alcohol in dealing with stress or establishing adulthood, normative cultural boundaries defining who can drink and when, cultural rituals that are part of families and peer groups and may bolster or discourage alcohol misuse, and significant historical events (poverty, war) that may help shape attitudes toward alcohol consumption. Although significant effort has been devoted to studying individual attributes (parents, race, gender, age) in relation to alcohol use, relatively little attention has been paid to more complex questions of how sociodemographic attributes interact with environmental and cultural factors.

Kandel, D.B. 1984. "Marijuana Users in Young Adulthood." *Archives of General Psychiatry* 41(2):200-209.

Striking differences appeared among 1,325 young adults aged 24 to 25 years depending on their marijuana use. Differences increased with involvement, although no threshold appeared

at any particular level. Marijuana users were characterized by higher use of other substances, membership in networks of marijuana users, lower participation and greater instability in conventional roles of adulthood, history of psychiatric hospitalization and lower psychological well-being, and participation in deviant activities. Involvement with marijuana-using friends and use by a spouse or partner, as well as use of other illicit drugs, were important predictors of current marijuana involvement. In young adulthood, as in adolescence, marijuana use is embedded in a social context favorable to its use and is associated with disaffection from social institutions. The social and psychological correlates of marijuana use are similar in young adulthood and adolescence and have remained unchanged over the last decade.

Kandel, D.B. 1996. "The Parental and Peer Contexts of Adolescent Deviance: An Algebra of Interpersonal Influences." *Journal of Drug Issues* 26(2):289-315.

Estimates of the relative influence of peers and parents on adolescents' drug use and other forms of deviance have inflated the importance of peers and underestimated the influence of parents. Following a brief review of major findings in research on parental-peer linkages, sources of distortion and overestimation in peer effects are identified: reliance on cross-sectional designs, which confound selection and socialization effects; reliance on perceptual reports of friends' behaviors, which reflect projection and attribution; failure to take into account parental contributions to children's peer selection; and failure to consider genetic contribution to observed parental effects. Selected empirical studies that have estimated peer and parental effects on drug use and delinquency from relational and longitudinal designs are used to develop correction factors. These are incorporated in equations designed to estimate biases in peer estimates and the effects of parental contributions to peer selection. Within the limitations of the available data, this study concludes that peer effects based on cross-sectional data and perceptions of peer behavior are overestimated at least by a factor of five.

Kandel, D.B., and M. Davies. 1996. "High School Students Who Use Crack and Other Drugs." *Archives of General Psychiatry* 53(1):71-80.

When it appeared in the 1980s, crack was thought to represent a completely new pathway of entry into drug use. The objective of this study was to identify the distinguishing characteristics of adolescents who have reached different stages of drug use, in particular the highest state represented by crack. Adolescents (N = 7611) representative of students in grades 7 to 12 from 53 New York State schools were classified in the following six mutually exclusive, cumulative categories of drug use: nonusers, alcohol and/or cigarette users only, marijuana users only, users of illicit drugs other than marijuana but neither cocaine nor crack, cocaine but not crack users, and crack users. The groups were compared in level of psychosocial functioning. Students who use illicit drugs show deficits in school performance, quality of family relationships, and health and increased psychological symptoms. Compared with nonusers, they are more delinquent and more actively involved with their peers and live in social environments in which the perceived use of drugs by other adolescents and parents is more extensive. Delinquency and extent of perceived drug use consistently increase with each higher stage of use. Crack users exhibit the lowest level of psychosocial functioning of any drug-using group. There are stage-specific characteristics and common characteristics (delinquent participation, peer drug use) throughout the developmental sequence of drug use. Despite declines over the past two decades in the prevalence of the use of different drugs,

young people who use drugs display characteristics over historical time similar to those of young drug users 20 years ago.

Kandel, D.B., M. Davies, D. Karus, and K. Yamaguchi. 1986. "The Consequences in Young Adulthood of Adolescent Drug Involvement. An Overview." *Archives of General Psychiatry* 43(8):746-754.

To examine the consequences of adolescent drug use on the psychosocial and health functioning of young adults, the authors followed up 1,004 young men and women from age 15 or 16 years to age 25 years. The use of four different classes of drugs was examined: cigarettes, alcohol, marijuana, and other illicit drugs. Twenty outcomes were examined, including continuity of participation in work and in family roles, level of education, delinquent activities, self-reported health and psychological symptoms, and use of five drug classes in early adulthood (including prescribed psychoactive medications). The effects of marijuana and of other illicit drugs could not be disentangled, so these drugs were treated as a single class. Controlling for initial individual differences in adolescence, use of the three major drug classes between adolescence and early adulthood affected most of the outcomes examined, most strongly continued use of the same substance. Unique drug effects included those of illicit drugs on increased delinquency, unemployment, divorce, and abortions, and of cigarettes on lowered psychological mood, illicit drugs predicted drug-related health problems, whereas cigarette use predicted increased breathing difficulties.

Kandel, D.B., R.C. Kessler, and R.Z. Margulies. 1978. "Antecedents of Adolescent Initiation into Stages of Drug Use: A Developmental Analysis." *Journal of Youth and Adolescence* 7(1):13-40.

The social psychological antecedents of entry into three sequential stages of adolescent drug use—hard liquor, marijuana, and other illicit drugs—are examined in a cohort of high school students in which the population at risk for initiation into each stage could be clearly specified. The analyses are based on a two-wave panel sample of New York State public secondary students and subsamples of matched adolescent–parent and adolescent–best school friend dyads. Each of four clusters of predictor variables—parental influences, peer influences, adolescent involvement in various behaviors, and adolescent beliefs and values—and single predictors within each cluster assume differential importance for each stage of drug behavior. Prior involvement in a variety of activities, such as minor delinquency and use of cigarettes, beer, and wine, are not important for hard liquor use. Adolescents' beliefs and values favorable to the use of marijuana and association with marijuana-using peers are the strongest predictors of initiation into marijuana. Poor relations with parents, feelings of depression, and exposure to drug-using peers are most important for initiation into illicit drugs other than marijuana.

Kaplan, H.B., and X. Lui. 1994. "A Longitudinal Analysis of Mediating Variables in the Drug Use-Dropping Out Relationship." *Criminology* 32(3):415-439.

The authors estimated the temporal relationships between illicit drug use and dropping out of school, and the variables that mediate these relationships, using theoretically informed models. They tested 2,805 students in the seventh grade (Time 1), in the eighth grade (Time 2), and during young adulthood (Time 3). The authors found that Time 1 drug use had a significant

effect on not graduating from high school (measured at Time 3), controlling for gender, father's education, race/ethnicity, and Time 1 measures of deviance, distress, self-control, and grades. This effect was decomposed by the addition of three hypothesized mediating variables in the relationships: Time 2 measures of low motivation, negative social sanctions, and premature performance of competing social roles. The addition of Time 1 measures of these variables did not obviate the relationship, but the addition of Time 2 measures of the three hypothesized mediating variables to the equation reduced to nonsignificance the effect of drug use on not graduating from high school.

Kandel, D.B., and K. Yamaguchi. 1993. "From Beer to Crack: Developmental Patterns of Drug Involvement." *American Journal of Public Health* 83(6):851-855.

Prior research has identified developmental stages in drug use in adolescence, from substances that are legal for adults to illicit drugs. The position of crack in patterns of drug involvement remains to be established. The analyses are based on a sample (n = 1108) representative of twelfth graders attending New York State public and private schools. From reported ages of first use of five classes of drugs (alcoholic beverages, cigarettes, marijuana, cocaine but not crack, crack), alternate models of progression were tested for their goodness of fit through log-linear models. The sequence involves at the earliest stage the use of at least one licit drug, alcohol or cigarettes. Subsequent stages involve marijuana and cocaine; crack is the last drug in the sequence. The results confirm the more important role of alcohol among males and cigarettes among females in the progression into various drug classes. Age of first drug use at a lower stage is a strong predictor of further progression. The developmental pattern of drug involvement identified in the early 1970s still characterizes adolescent pathways of drug involvement in the late 1980s.

McCarthy, W.J., and M.D. Anglin. 1990. "Narcotics Addicts: Effect of Family and Parental Risk Factors on Timing of Emancipation, Drug Use Onset, Pre-Addiction Incarceration and Educational Achievement." *Journal of Drug Issues* 20(1):99-123.

The authors of this article examined the family background characteristics of 756 male heroin users to determine the effects of selected family risk factors on the timing of onset of emancipation and drug use, on pre-addiction incarcerations and on educational attainment. These risk factors included family size, birth order, socioeconomic status, family drug use, parental history of alcoholism, parental absence, and family history of incarceration. The two measures of age of emancipation were age on leaving school and age on leaving home. Age of onset of regular use was measured for the following drugs: tobacco, alcohol, marijuana and heroin. Incarceration measures included the occurrence of juvenile detention and the time spent in prison prior to first addition. Educational attainment was a score on a California State achievement test. Larger family size, higher birth order, parental alcoholism, and parental absence were found to have a cumulatively negative effect on how young the respondents were when they first left home and when they first used particular drugs regularly, on their level of tested academic achievement, and on their probability of juvenile detention. The authors discuss the implications for social policies designed to prevent drug abuse.

McGue, M. 1994. "Genes, Environment, and the Etiology of Alcoholism." In *The Development of Alcohol Problems: Exploring the Biopsychosocial Matrix of Risk*, NIAAA Monograph No. 26, R. Zucker, G. Boyd, and J. Howard, eds., pp. 1-39. Rockville, MD: U.S. Department of Health and Human Services.

The author describes three basic methodological approaches used to study genetic contributions to alcoholism: adoption studies, twin studies, and genetic marker studies; the author also reviews major studies that make use of each approach. There is convincing evidence for a genetic influence on the development of alcoholism, at least in males, though the role of environmental factors cannot be ignored. The challenge before researchers is to integrate these biological-genetic approaches to alcoholism with psychosocial approaches; these two lines of research have proceeded independent of each other, for the most part. Psychosocial research will benefit from the early identification of individuals who have a biological risk for alcoholism and are, thus, more susceptible to environmental factors.

Mensch, B.S., and D.B. Kandel. 1988. "Dropping Out of High School and Drug Involvement." *Sociology of Education* 61(2):95-113.

The authors explored the relationship between dropping out of high school and substance use using the National Longitudinal Survey of Young Adults, a national longitudinal sample of young Americans aged 19-27 in 1984. Cross-sectional data indicated that high school dropouts were more involved with cigarettes and illicit drugs than were graduates and that those who obtained a graduate equivalency diploma (GED) were the most intensely involved. Event-history analysis indicates that, controlling for other important risk factors, prior use of cigarettes, marijuana, and other illicit drugs increases the propensity to drop out and that the earlier the initiation into drugs, the greater the probability of premature school leaving. Thus, preventing or at least delaying the initiation of drug use will reduce the incidence of dropping out from our nation's high schools.

Merikangas, K.R. 1994. "Vulnerability for Alcoholism." In *The Development of Alcohol Problems: Exploring the Biopsychosocial Matrix of Risk*, NIAAA Monograph No. 26, R. Zucker, G. Boyd, and J. Howard, eds., pp. 331-339. Rockville, MD: U.S. Department of Health and Human Services.

This commentary reviews the six major risk factors for development of alcoholism: family history, psychopathology, temperament, central nervous system function, alcohol metabolism, and environmental factors. The author discusses a theory on the development of alcoholism advanced by Tarter and Vanyukov. This theory integrates behavior genetics and developmental psychology and posits that temperament and environment interact in the development of alcoholism. Temperamental factors include activity level, emotionality, sociability, and attention span. Environmental factors that make temperamental expression possible are familial environment, sociodemographic factors, school experience, occupational environment, and cultural influences. Tarter and Vanyukov's theory is appealing because it acknowledges the multiple and complex pathways of the development of alcoholism. The author proposes types of research that would help to establish the validity of this theory.

Merikangas, K.R., B.J. Rounsaville, and B.A. Prusoff. 1992. "Familial Factors in Vulnerability to Substance Abuse." In *Vulnerability to Drug Abuse*, M.D. Glantz and R.W. Pickens, eds., pp. 75-97. Washington, DC: American Psychological Association.

This chapter reviews methodology and findings of familial studies of substance abuse. Familial transmission of alcoholism has been confirmed, with 30 percent of variance attributable to genetic factors. Unlike other genetically linked psychiatric disorders (e.g., schizophrenia), alcoholism requires voluntary consumption of alcohol; complex social, environmental, and behavioral factors play a role. There is much less evidence addressing familial transmission of substance abuse other than alcohol, especially where illicit substances are concerned. Studies have generally established that biologic-genetic factors influence the initiation and persistence of substance use; peer relationships are strongly related to substance use. The authors conclude that the following factors may accelerate an individual's transition from substance use to abuse: individual's antisocial personality disorder, history of drug abuse in a parent or sibling, and concordance for substance abuse in parents.

Merikangas, K.R., M. Stolar, D.E. Stevens, J. Goulet, M.A. Preisig, B. Fenton, H. Zhang, S.S. O'Malley, and B.J. Rounsaville. 1998. "Familial Transmission of Substance Use Disorders." *Archives of General Psychiatry* 55(11):973-979.

There is increasing evidence that substance use disorders are familial and that genetic factors explain a substantial degree of their familial aggregation. This article reports a controlled family study of probands with several different predominant drugs of abuse, including opioids, cocaine, cannabis, and/or alcohol. The subjects for the present study included 231 probands with dependence on opioids, cocaine, cannabis, and/or alcohol and 61 control probands, and their 1267 adult first-degree relatives. Diagnostic estimates were based on semistructured diagnostic interviews and/or structured family history interviews regarding each proband, spouse, and adult first-degree relative. The interview data were reviewed blindly and independently by clinicians with extensive experience in the evaluation and treatment of substance use disorders. There was an 8-fold increased risk of drug disorders among the relatives of probands with drug disorders across a wide range of specific substances, including opioids, cocaine, cannabis, and alcohol, which is largely independent from the familial aggregation of both alcoholism and antisocial personality disorder. There was also evidence of specificity of familial aggregation of the predominant drug of abuse. Elevation in risk of this magnitude places a family history of drug disorder as one of the most potent risk factors for the development of drug disorders. These results suggest that there may be risk factors that are specific to particular classes of drugs as well as risk factors that underlie substance disorders in general.

Murray, D.M., M. Davis-Hearn, A.I. Goldman, P. Pirie, and R.V. Luepker. 1988. "Four- and Five-Year Follow-Up Results from Four Seventh-Grade Smoking Prevention Strategies." *Journal of Behavioral Medicine* 11(4):395-405.

Recent studies have suggested that a prevention program that addresses the social influences that encourage smoking can be effective in deterring cigarette use by adolescents. This study presents 4- and 5-year follow-up results from two studies that evaluated three variations of this

social influences model and compared them to a health consequences program and an existing-curriculum condition. The results suggest that a seventh-grade program, built around the social influences model and taught jointly by same-age peer leaders and local classroom teachers, may reduce 4-year weekly- and daily-smoking cumulative incidence rates, providing the first evidence for any long-term effects for the social influences model. However, the results also suggest that any long-term effects from such interventions are probably limited and may depend heavily on the manner in which the social influences model is translated during the intervention. Additional follow-up studies are needed to clarify the long-term effects of these intervention programs.

Newcomb, M.D. 1995. "Identifying High-Risk Youth: Prevalence and Patterns of Adolescent Drug Abuse." In *Adolescent Drug Abuse: Clinical Assessment and Therapeutic Interventions, NIDA Research Monograph 156*, E. Rahdert and D. Czechowicz, eds., pp. 7-38. Rockville, MD: U.S. Department of Health and Human Services.

Understanding the risks that underlie adolescent substance abuse is crucial. But the most frequently cited surveys of adolescent substance use—Monitoring the Future and the National Survey on Drug Use and Health—are school based and so do not fully account for young people at greatest risk: truant, dropout, and homeless teens. While adolescent use of illicit substances has been dropping for the last two decades, students are initiating use earlier. Consumption of licit substances poses serious health risks. Drunk driving is a leading cause of death in teens and smoking will probably be responsible for more deaths of current teens than other single cause. The prevalence of teen alcohol and tobacco use should make these substances top priorities for prevention and treatment. The authors propose four main categories of risk factors for adolescent substance use: culture and society, interpersonal, psychobehavioral, biogenetic. The social dimension of substance use is key. Most substance use is initiated among peers and friends, so peer influences such as modeling use, provision of drugs, and encouraging use are strong predictors of initiation. Multiple risk factors contribute to a teen's decision to use substances. The authors argue that multiple protective factors can militate against that decision. Religiosity, self-acceptance, positive home life, sanctions against substance use, respect for laws, and educational aspirations can counter-balance an adolescent's risk factors. Substance use can hinder an adolescent's transition into adulthood, introducing a hiatus in development. Examination of risk factors for substance use should be accompanied by consideration of other problems of adolescence.

Powers, R.A. 1998. "Substance Abuse." In *Clinical Child Psychiatry*, W.M. Klyklo, J. Kay, and D. Rube, eds., pp. 230-262. Philadelphia: W.B. Saunders Company.

Resnick, M.D., P.S. Bearman, R.W. Blum, K.E. Bauman, K.M. Harris, J. Jones, J. Tabor, T. Beuhring, R.E. Sieving, M. Shew, M. Ireland, L.H. Bearinger, and J.R. Udry. 1997. "Protecting Adolescents from Harm: Findings from the National Longitudinal Study on Adolescent Health." *Journal of the American Medical Association* 278(10):823-832.

The main threats to adolescents' health are the risk behaviors they choose. The authors of this article explain that how their social context shapes their behaviors is poorly understood. As a result, the authors identified risk and protective factors at the family, school, and individual

levels as they relate to four domains of adolescent health and morbidity: emotional health, violence, substance use, and sexuality. The authors conducted cross-sectional analysis of interview data from the National Longitudinal Study of Adolescent Health. A total of 12,118 adolescents in grades 7 through 12 drawn from an initial national school survey of 90,118 adolescents from 80 high schools plus their feeder middle schools, completed interviews in their homes. Eight areas were assessed: emotional distress; suicidal thoughts and behaviors; violence; use of three substances (cigarettes, alcohol, marijuana); and two types of sexual variables (age of sexual debut and pregnancy history). Independent variables included measures of family context, school context, and individual characteristics. Parent-family connectedness and perceived school connectedness were protective against every health risk behavior measure except history of pregnancy. Conversely, ease of access to guns at home was associated with suicidality and violence. Access to substances in the home was associated with use of cigarettes, alcohol, and marijuana among all students. Working 20 or more hours a week was associated with emotional distress of high school students, cigarette use, alcohol use, and marijuana use. Appearing "older than most" in class was associated with emotional distress and suicidal thoughts and behaviors among high school students; it was also associated with substance use and an earlier age of sexual debut among both junior and senior high students. Repeating a grade in school was associated with emotional distress among students in junior high and high school and with tobacco use among junior high students. On the other hand, parental expectations regarding school achievement were associated with lower levels of health risk behaviors; parental disapproval of early sexual debut was associated with a later age of onset of intercourse. The authors conclude that family and social contexts, as well as individual characteristics, are associated with health and risky behaviors in adolescents. The results should assist health and social service providers, educators, and others in taking the first steps to diminish risk factors and enhance protective factors for young people.

Weinberg, N.Z., E. Rahdert, J.D. Colliver, and M.D. Glantz. 1998. "Adolescent Substance Abuse: A Review of the Past 10 Years." *Journal of the American Academy of Child & Adolescent Psychiatry* 37(3):252-261.

This study reviews and synthesizes the recent scientific literature on adolescent substance abuse, covering natural history, epidemiology, etiology, comorbidity, assessment, treatment, and prevention, and highlights areas for future research. Studies of adolescent substance abuse are reviewed with the focus on substance abuse and dependence rather than substance use. There has been a sharp recent resurgence in adolescent drug use. Biological factors, including genetic and temperament characteristics, as well as family environment factors, are emerging as important etiological variables. Comorbidity with other psychiatric disorders, particularly with conduct disorder, is frequent and complicates treatment. New assessment instruments are available for clinical and research use. Among treatment modalities, family-based interventions have received the most study. The past decade has seen growth in the volume and sophistication of research on adolescent substance abuse and in the conceptualization of this problem. Further research is needed, particularly on the significance of comorbid conditions and on individualized and effective treatment approaches.

Yamada, T., M. Kendix, and T. Yamada. 1996. "The Impact of Alcohol Consumption and Marijuana Use on High School Graduation." *Health Economics* 5(1):77-92.

In this study the authors use data from the National Longitudinal Survey of Youth (NLSY) to estimate the relationship between high school graduation, and alcohol and marijuana use among high school students. The authors also estimate the demand determinants for each of these substances. The results show that there are significant adverse effects of alcohol and marijuana use on high school graduation. In particular, increases in the incidence of frequent drinking, liquor and wine consumption, and frequent marijuana use significantly reduce the probability of high school graduation. The results also show that beer taxes, liquor prices, and marijuana decriminalization have a significant impact on the demand for these substances. These findings have important policy implications. A 10 percent increase in beer taxes reduces alcohol consumption among high school students, which in turn raises the probability of high school graduation by about 3 percent. A 1 percent increase in liquor prices raises the probability of high school graduation by over 1 percent. Raising the minimum drinking age for liquor also reduces liquor consumption, and thus improves the probability of high school graduation. Although the relationship between marijuana decriminalization and marijuana use is not significant, decriminalization is found to reduce the probability of becoming a frequent drinker. This result suggests that marijuana use and frequent drinking are substitute activities. Illicit substance abuse reduces the rate of high school completion, reduces expected future earnings, and creates potential health problems. Thus, high-school-based preventive programs which discourage alcohol consumption and marijuana use are highly recommended to alleviate these problems.

WORKPLACE SUBSTANCE ABUSE PREVENTION

Ames, G.M., and C. James. 1992. "A Cultural Approach to Conceptualizing Alcohol and the Workplace." *Alcohol Health and Research World* 16(2):112-119.

The authors identify four cultural dimensions that affect alcohol use in the workplace: normative regulation of drinking, quality and organization of work, factors external to the workplace, and drinking subcultures at work. The most influential aspect of workplace culture when it comes to drinking is normative rules that govern alcohol consumption. These include written company policies as well as unspoken cultural norms (e.g., martini lunches, social drinking at company functions). Often, these tacit norms are a powerful social force, with inclusion or exclusion from a group hinging on the decision to join the group for a drink. Several aspects of type and organization of work have been shown to influence alcohol consumption. Work situations that are unstructured, inflexible, highly stressful, or make workers feel powerless or alienated have been shown to promote problem drinking. Factors external to work—religiosity, commitment to community organizations, strong family bonds—can influence workers to either join or shun drinking groups at work. A history of family drinking may induce a worker to seek out a workplace where drinking is a prominent feature of the cultural milieu. Strong commitment to family might also cause workers to absent themselves from carousing after work. In drinking subcultures, alcohol consumption is seen not as a problem behavior but as a means of communication that signifies solidarity, masculinity, job identity, and group values.

Bachman, J.G., and J. Schulenberg. 1993. "How Part-Time Work Intensity Relates to Drug Use, Problem Behavior, Time Use, and Satisfaction among High School Seniors: Are These Consequences or Merely Correlates?" *Developmental Psychology* 29(2):220-235.

The authors related work intensity (hours worked per week) to indicators of psychosocial functioning and adjustment by using nationally representative samples of high school seniors, totaling 70,000+ respondents, from the classes of 1985 to 1989. Consistent with previous research, positive correlations were found between work intensity and problem behaviors, such as smoking cigarettes, drinking alcohol, using illicit substances, theft, and trouble with police; these associations were diminished (but not eliminated) once background and educational success indicators were controlled for, suggesting that selection of factors contribute to the correlations. Work intensity appears to reduce the likelihood of getting sufficient sleep, eating breakfast, exercising, and having a satisfactory amount of leisure time. The authors discuss conceptual and policy implications, including the possibility that long hours of part-time work may be both a symptom and a facilitator of psychosocial difficulties.

Bray, J.W., M.T. French, and B.J. Bowland. 1996. "The Cost of Employee Assistance Programs (EAPs): Findings from Seven Case Studies." *Employee Assistance Quarterly* 11(4):1-19.

Despite the increasing prevalence of Employee Assistance Programs (EAPs), few studies have examined the cost of these programs. The authors present consistent and comparable cost data from case studies of EAPs at seven worksites. Because the same data collection instruments and methods were used to collect cost data at each worksite, the data can be used to directly compare cost estimates across programs. Key findings show that EAPs exhibit some economies of scale, that labor costs account for the majority of EAP costs regardless of the services offered, and that EAPs with similar costs per eligible employee may use a substantially different mix of resources. In addition to the cost analyses, the case study findings were compared with recently reported national estimates of EAP costs. Results of this study will help policy makers and employers determine the range of EAP costs for different types of services.

Cook, R.F., A.S. Back, and J. Trudeau. 1996. "Preventing Alcohol Use Problems among Blue-Collar Workers: A Field Test of the Working People Program." *Substance Use & Misuse* 31(3):255-275.

The authors developed and presented a program designed to prevent alcohol misuse among working adults in four sessions to employees of a medium-sized printing company. The "Working People" program, based on a social-learning model, was field-tested with 108 employees in the context of a quasi-experimental design. Members of the Program Group (n = 38) and two Comparison Groups (n = 26 and 44) were assessed before and after the program on a questionnaire containing measures of alcohol consumption, attitudes and intentions regarding alcohol use, problem consequences of alcohol use, and health beliefs. Program effects were demonstrated on alcohol consumption, motivation to reduce consumption, and problem consequences of drinking. No effects were found on health beliefs or self-efficacy to reduce drinking. Although the findings are qualified by the self-selected

nature of the samples, the results suggest that alcohol consumption can be reduced among adults who participate in this type of worksite program.

Cook, R.F., A.S. Back, and J. Trudeau. 1996. "Substance Abuse Prevention in the Workplace: Recent Findings and an Expanded Conceptual Model." *Journal of Primary Prevention* 16(3):319-339.

The majority of heavy drinkers and users of illicit drugs are employed adults, yet there is a dearth of sophisticated substance abuse prevention efforts in the workplace. This article reviews the approaches to worksite-based substance abuse prevention and presents the results of a field test of a prevention program aimed at the individual worker. Based on these findings and other theoretical perspectives from the literature, an expanded conceptual model for workplace substance abuse preventions is presented that incorporates elements of the sociocultural environment and the beliefs and motivations of individual workers. Both the substance abuse prevention field and the business community have shown increased interest in preventing substance abuse in the workplace. The field test indicates that a health-oriented substance abuse prevention program can help reduce substance abuse in the workforce.

Dooley, D., and J. Prause. 1998. "Underemployment and Alcohol Misuse in the National Longitudinal Survey of Youth." *Journal of Studies on Alcohol* 59(6):669-680.

The authors measured the impact of unemployment and underemployment on alcohol misuse. To do so, they studied a panel of respondents from the National Longitudinal Survey of Youth in 1984-1985 and 1988-1989. In each pair of years, the effect of employment change (e.g., becoming underemployed) on alcohol misuse was assessed controlling for misuse in the first year. Alcohol misuse was operationalized in two ways: elevated symptoms and heavy drinking. Three samples were analyzed: a core sample of 2,441 who were available in both pairs of years (approximately 65 percent male) and two extended samples that included everyone available in one pair of years but not the other ($n = 4,183$ in 1984-85 and $n = 3,926$ in 1988-89). The 1984-85 analyses revealed a significant association of adverse change in employment with both elevated alcohol symptoms and heavy drinking (the latter moderated by prior heavy drinking). The 1988-89 analyses found no relationship between adverse change in employment and heavy drinking in the core sample and no main effect of adverse change in employment on symptoms, but they did reveal interactions involving prior symptoms (core sample) and marital status (extended sample). Several explanations for these decreasing effects over time were considered, including changes in measurement reliability, statistical power, economic environment, and respondents' maturity. These results confirm previous findings that job loss can increase the risk of alcohol misuse, provide new evidence that two types of underemployment (involuntary part-time and poverty-level wage) can also increase this risk, and suggest that these effects vary over time.

French, M.T., and G.A. Zarkin. 1998. "Mental Health, Absenteeism and Earnings at a Large Manufacturing Worksite." *Journal of Mental Health Policy and Economics* 1:161-172.

Recent studies have examined the relationship between mental illness and labor market variables. Findings are inconsistent, however, and leave unanswered many questions

concerning both the nature and magnitude of the relationship. This study analyzed a worksite-based data set to explore the relationship between symptoms of emotional and psychological problems and employee absenteeism and earnings among employees at a large U.S. worksite. Two measures of absenteeism were combined—days absent during the past 30 days due to sickness or injury and days absent during the past 30 days because the employee did not want to be at work—to create both a dichotomous (i.e., ever absent) and a continuous (i.e., number of days absent) absenteeism variable. Annual earnings were measured as personal earnings from the primary job. Various statistical models were tested to determine the independent and joint (with alcohol and illicit drug use) relationship between symptoms of emotional problems and labor market variables. The analysis consistently finds that workers who report symptoms of emotional/psychological problems have higher absenteeism and lower earnings than otherwise similar coworkers. This finding is robust to model specification and to the inclusion of comorbid conditions, such as alcohol and illicit drug use. This study contributes new information to the literature in this area by estimating the effects of emotional/psychological symptoms on two important labor market variables: absenteeism and earnings. Several specifications of the absenteeism and earnings equations were estimated to test the independent effect of emotional symptoms and the joint effects of emotional symptoms and other comorbid conditions. Results suggest that employers should consider the productivity losses associated with workers' mental health when designing worksite-based programs such as Employee Assistance Programs (EAPs). All four measures of emotional symptoms had a positive and statistically significant relationship with absenteeism and a negative and statistically significant relationship with personal earnings. These findings were robust across all specifications, even when the effects of other potentially confounding factors (i.e., alcohol and drug use variables) are included. In addition, the number of days intoxicated and cigarette use in the past year appear to be significantly related to earnings even after controlling for emotional symptoms. Finally, the explanatory power of the models is relatively high for cross-sectional data, especially for the earnings regressions. Findings suggest that employers might do well to reassess the priorities of their EAPs and consider directing more of their resources to diagnosing and assisting employees with emotional and psychological distress.

French, M.T., G.A. Zarkin, and L.J. Dunlap. 1998. "Illicit Drug Use, Absenteeism, and Earnings at Six U.S. Worksites." *Contemporary Economic Policy* 16(3):334-346.

Considerable national attention has focused on the adverse consequences of illicit drug use. Although several studies estimate the relationship between illicit drug use and wages, the findings are inconsistent. Surprisingly, some researchers identify a positive and statistically significant relationship between wages and drug use for young adults. Motivated by this counter-intuitive finding, the authors compiled unique data on employees at six worksites in order to explore the relationships among drug use, wages, and absenteeism. Using various measures of current and lifetime drug use and accounting for alcohol-use comorbidity, the authors found predominantly insignificant relationships (both direct and indirect) between drug use and both wages and absenteeism, regardless of gender.

French, M.T., G.A. Zarkin, T.D. Hartwell, and J.W. Bray. 1995. "Prevalence and Consequences of Smoking, Alcohol Use, and Illicit Drug Use at Five Worksites." *Public Health Reports* 110(5):593-599.

Employers are becoming increasingly concerned about the consequences and costs of substance use in their workplaces. Despite this heightened awareness, little information is available to guide them in setting up worksite-based prevention and assistance programs. Most estimates of the prevalence or consequences of substance use are derived from large national surveys of households or individual persons. The primary contribution of the research presented in this article to the public health literature is the empirical results from a unique data set. In particular, the authors present results of a survey administered to more than 1,200 employees at five different worksites. Descriptive statistics for the prevalence of smoking, alcohol and illicit drug use, prescription drug misuse, and workplace consequences, such as reduced performance and absenteeism, are reported, as well as findings from a multivariate analysis of substance use prevalence and consequences. Compared with national averages, workers at these five sites tended to have substance use profiles similar to or slightly lower than estimates from large national surveys. The study's estimates may help employers identify the extent of a substance abuse problem in their worksites and specific areas to target for possible intervention.

Frone, M.R., and M. Windle. 1997. "Job Dissatisfaction and Substance Use among Employed High School Students: The Moderating Influence of Active and Avoidant Coping Styles." *Substance Use & Misuse* 32(5):571-585.

The authors extended prior stress-coping-substance use research among adolescents by examining the employment context. Specifically, their study examined the relation of job dissatisfaction to substance use and the potential moderating influence of active and avoidant coping styles. They obtained data from 446 employed high school students. Ordered-probit regression analyses revealed that job dissatisfaction is positively related to cigarette and alcohol use but not to illicit drug use. Coping styles did not moderate the relation between job dissatisfaction and substance use. Nonetheless, coping styles have significant main-effect relations to substance use. Active coping was negatively related and avoidant coping was positively related to both cigarette and alcohol use. Neither coping style was related to illicit drug use.

Hartwell, T.D., P. Steele, M.T. French, F.J. Potter, N.F. Rodman, and G.A. Zarkin. 1996. "Aiding Troubled Employees: The Prevalence, Cost, and Characteristics of Employee Assistance Programs in the United States." *American Journal of Public Health* 86(6):804-808.

Employee Assistance Programs (EAPs) are job-based programs designed to identify and assist troubled employees. The authors' study determined the prevalence, cost, and characteristics of these programs in the United States by worksite size, industry, and census region. To do so, the authors contacted a stratified national probability sample of more than 6,400 private, nonagricultural U.S. worksites with 50 or more full-time employees, using a computer-assisted telephone interviewing protocol. More than 3,200 worksites responded and were eligible, with a response rate of 90 percent. Approximately 33 percent of all private, nonagricultural worksites

with 50 or more full-time employees currently offer EAP services to their employees, an 8.9 percent increase over 1985. These programs are more likely to be found in larger worksites and in the communications/utilities/transportation industries. The most popular model is an external provider, and the median annual cost per eligible employee for internal and external programs was \$21.83 and 18.09, respectively. The authors concluded that EAPs are becoming a more prevalent point of access to health care for workers with personal problems such as substance abuse, family problems, or emotional distress.

Hemmingsson, T., and I. Lundberg. 1998. "Work Control, Work Demands, and Work Social Support in Relation to Alcoholism among Young Men." *Alcoholism, Clinical and Experimental Research* 22(4):921-927.

Low work control, low job demands, and low workplace social support were found to be related to later alcoholism. A combination of low demands and low control, what might be called a "passive" work environment, was related to an increased relative risk of psychiatric alcoholism diagnosis after controlling for relevant background factors. Low work control, in particular in combination with low work demands, and low work social support are related to later alcoholism even after controlling for previously known risk factors (including risk use of alcohol). Results suggest that young men may respond to an undemanding occupational environment by increasing their alcohol consumption.

Hoffman, J.P., C. Larison, and A. Sanderson. 1997. "An Analysis of Worker Drug Use and Workplace Policies and Programs." Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

This report uses information from the National Household Survey on Drug Abuse (NHSDA) to examine issues involving illicit drug and heavy alcohol use among U.S. workers and workplace policies that address drug and alcohol use. The 1994 NHSDA included questions about various work-related outcomes (e.g., missing work, being fired, workplace accidents), occupation, establishment size, whether respondents had been provided with information at their workplace regarding use of alcohol or drugs, written policies and Employee Assistance Programs (EAPs) for workers with drug or alcohol problems, and the use of drug testing and employees' perceptions about it. In people aged 18 to 49 years, 8 percent of full-time workers, 9 percent of part-time workers, and 16 percent of unemployed persons reported illicit drug use, but 70 percent of those reporting illicit drug use were employed full time. Rates of illicit drug use were higher among 18- to 25-year-olds than among older workers, and higher among those making less than \$9,000 or more than \$75,000 per year than among those making between \$9,000 and \$75,000 per year. Construction workers, handlers, helpers, precision production and repair workers, food preparers, wait-staff, and bartenders reported highest rates of illicit drug use; protective service workers reported the lowest rates of illicit drug use. Drug testing and EAPs were both more prevalent in companies with more than 500 employees.

Kandel, D.B., K. Chen, and A. Gill. 1995. "The Impact of Drug Use on Earnings: A Life-Span Perspective." *Social Forces* 74(1):243-270.

Cross-sectional and longitudinal causal analyses were carried out on a longitudinal cohort of employed adult males (N = 400) to investigate the relationship between various forms of drug

use and earnings. By age 35, there are no cumulative effects of the use of illicit drugs on wages. Specification of the relationships at various stages of the life cycle reveals that the effects of illicit drug use are positive in the early stages of labor force participation (by the late twenties) but negative in later stages (by the mid-thirties). The negative impact of drug use on earnings appears to take more than a decade to manifest itself and is reflected in lower rates of earnings growth. The authors propose that a labor market theory of life-cycle compensation contracts and investments in training and the differential impact that different types of job changes have in the short and the long run among users and nonusers provide a partial accounting of the processes underlying the observed opposite relationship between drug use and earnings at different age periods. The importance of adopting a life-span perspective is highlighted by these findings.

Kandel, D.B., and K. Yamaguchi. 1987. "Job Mobility and Drug Use: An Event History Analysis." *American Journal of Sociology* 92(4):836-878.

Life and drug histories collected in a longitudinal cohort of young adults aged 24-25 are analyzed to specify the dynamic relationships between patterns of drug use and job separations. Three patterns of drug use are investigated: daily alcohol use, monthly use of marijuana, and monthly use of other illicit drugs. Job changes followed immediately by another job are distinguished from job losses not followed by new employment within a month. Two processes assumed to underlie the relationship between drug use and job mobility are distinguished: selection, in which individual predispositions account for self-selection into job separation, and causation, which reflects the specific effects of drug use on job separation. Drug use has a strong effect on job separation, which appears to be mainly a selection effect. Results document the importance of drug use in predicting high job mobility and subsequent unemployment in late adolescence and early adulthood. The neglect of this lifestyle factor in prior analyses has led to overestimations of the negative effects of job duration and marital status and the positive effect of prior experience of a job separation on future separations.

Karuntzos, G.T., L.J. Dunlap, and G.A. Zarkin. 1998. "Designing an Employee Assistance Program (EAP) Intervention for Women and Minorities: Lessons from the Rockford EAP Study." *Employee Assistance Quarterly* 14(1):49-67.

The authors described an enhanced Employee Assistance Program (EAP) intervention implemented through a large, community-based not-for-profit EAP located in Rockford, Illinois, approximately 90 miles northwest of Chicago. The enhanced intervention builds on the existing EAP services and is designed to effectively reach employees with alcohol-related problems and specifically meet the special needs of women and racial/ethnic minority workers. The intervention components were developed to address significant gaps in the EAP's standard services for these populations. The intervention components include specialized EAP counselors, in-house training of EAP staff, a standardized alcohol screener, enhanced worksite supervisor training, community linkages, enhanced outreach materials, worksite orientation sessions, targeted outreach seminars, and contracted interpreters. The authors described the development and implementation phases of the research protocol. They explained that subsequent research will evaluate the effectiveness and cost-effectiveness of the intervention.

Lehman, W.E.K., and D.D. Simpson. 1992. "Employee Substance Use and On-the-Job Behaviors." *Journal of Applied Psychology* 77:309-321.

Substance use and job behaviors were assessed in a sample of municipal employees from a large city in the southwestern United States. Job behaviors included psychological and physical withdrawal, positive work behaviors, and antagonistic work behaviors. Employees who reported substance use at or away from work were found to more frequently engage in withdrawal activities and antagonistic work behaviors than did nonusers, although users and nonusers did not differ on positive work behaviors. The authors tested hierarchical regression models to determine whether substance use contributed unique variance to the prediction of job behaviors after they controlled for variance associated with personal and job background domains. Substance use added unique variance to the prediction of psychological and physical withdrawal behaviors but not to positive or antagonistic work behaviors.

Martin, J.K., P.M. Roman, and T.C. Blum. 1996. "Job Stress, Drinking Networks, and Social Support at Work: A Comprehensive Model of Employees' Problem Drinking Behaviors." *Sociological Quarterly* 37:579-599.

Most research examining the problem drinking behaviors of employees has sought to demonstrate that variation in alcohol consumption derives from nonrewarding or stressful aspects of modern work that promote intrapsychic stress and/or alienation. These inquiries have ignored additional job factors that might influence employee drinking patterns. We extend this literature by developing and testing a comprehensive model of influences on employee problem drinking. The model includes the simultaneous influences of stressful working conditions, participation in job-based drinking networks, and perceived social support on the job. Analyses of data from the 1991 National Employee Survey (NES) indicate that this explanatory model significantly improves our understanding of the job-related influences on employee problem drinking. We also demonstrate that each class of job factors has important mediated influences on problem drinking that result from their association with individualized job escapist-oriented reasons for drinking.

Mensch, B.S., and D.B. Kandel. 1988. "Do Job Conditions Influence the Use of Drugs?" *Journal of Health and Social Behavior* 29(2):169-184.

The relationships between job conditions and use of four classes of drugs—alcohol, cigarettes, marijuana, and cocaine—are investigated in the Youth Cohort of the National Longitudinal Survey (NLSY) of Labor Market Experience, a nationally representative survey of the labor-force experience of young adults aged 19 through 27 in 1984. Indirect measures of job characteristics, based on census-based classifications developed by Karasek et al. (1982) and on the DOT (Miller, Truman, Cain, and Ross 1980), were supplemented by limited self-reported measures. No clear epidemiological patterns emerge regarding the distribution of drug use in general or on the job across occupations and industries. Similarly, specific job dimensions, whether assessed from job titles or from the respondents themselves, showed very low correlations with recency/frequency measures of drug use. Individual factors indexing lack of commitment to social institutions, such as having dropped out of school, participation in delinquent activities, and not being married, are much stronger predictors of drug use than are

specific job conditions. Our conclusion is that substance use by workers is not due as much to conditions of the workplace as to attributes of the workforce.

Normand, J., S.D. Salyards, and J.J. Mahoney. 1990. "An Evaluation of Preemployment Drug Testing." *Journal of Applied Psychology* 75(6):629-639.

As part of blind longitudinal study, 5,465 job applicants were tested for use of illicit drugs; the relationships between these drug-test results and absenteeism, turnover, injuries, and accidents on the job were also evaluated. After an average 1.3 years of employment, employees who had tested positive for illicit drugs had an absenteeism rate 59.3 percent higher than employees who had tested negative (6.63 percent vs. 4.16 percent of scheduled work hours, respectively). Employees who had tested positive also had a 47 percent higher rate of involuntary turnover than employees who had tested negative (15.41 percent vs. 10.51 percent, respectively). No significant associations were detected between drug-test results and measures of injury and accident occurrence. The practical implications of these results, in terms of economic utility and prediction errors, are discussed.

Pollack, E.S., G.M. Franklin, D. Fulton-Kehoe, and R. Chowdhury. 1998. "Risk of Job-Related Injury among Construction Laborers with a Diagnosis of Substance Abuse." *Journal of Occupational and Environmental Medicine* 40(6):573-577.

This study attempts to determine whether a diagnosis of substance abuse among construction laborers is associated with an increased risk of work-related injuries. Records for construction laborers in Washington State who were covered by health insurance through the local union were matched against worker's compensation records in the Washington State Department of Labor and Industries. Using the health insurance records, we identified those who had a diagnosis of substance abuse during the two-year period 1990-1991. Using the workers' compensation records, we were then able to compare injury rates for those with substance abuse diagnoses with the rates for those without such diagnoses. The total cohort consisted of 7,895 laborers. Among the 422 who had a substance abuse diagnosis, the rate of time-loss injuries per 100 full-time equivalent workers was 15.1, compared with 10.9 among the remainder of the cohort. Most of the difference appeared in the 25-34-year age group, in which the rate of injury per 100 full-time equivalent workers was 23.6 for substance abusers, compared with a rate of 12.2 for non-substance abusers, for a statistically significant relative risk of 1.93. The study suggests that younger workers might be an appropriate target for interventions aimed at reducing the level of substance abuse as a way of preventing injuries on the job. Studies by others have indicated some degree of success in this direction through the use of employee assistance programs in which the worker is referred to specific programs or providers for treatment. The state legislature in Washington has recently passed legislation providing incentives for the use of employee assistance programs. More effort is needed to evaluate the effectiveness of such programs.

Sanford, M., D. Offord, K. McLeod, M. Boyle, C. Byrne, and B. Hall. 1994. "Pathways into the Work Force: Antecedents of School and Work Force Status." *Journal of the American Academy of Child & Adolescent Psychiatry* 33(7):1036-1046.

The study aimed to identify risk factors for specific pathways into the workforce using data from the Ontario Child Health Study Follow-up. Potential predictor variables were derived from data collected in 1983 on adolescents aged 13 to 16 years. The subjects were followed up 4 years later and the school/workforce outcome was determined. Bivariate and multivariate statistical analyses were used to identify variables with a strong independent association with this outcome. Subjects in the workforce were four times more likely than those attending school to have come from a low-income family and at least two times more likely to have a family background of low maternal education, to have failed a grade, or to have used substances heavily during early adolescence. Subjects with two or more of these risk factors were likely to be in part-time work or unemployed. Preventive interventions should be targeted at children from poor families, or who fail at school, or show early onset of substance abuse and other deviant behaviors. Studies are needed to further elucidate the relationship between these risk factors and pathways into the workforce and beyond.

Steinberg, L., S. Fegley, and S.M. Dornbusch. 1993. "Negative Impact of Part-Time Work on Adolescent Adjustment: Evidence from a Longitudinal Study." *Developmental Psychology* 29(2):171-180.

Researchers disagree over whether negative correlates of extensive part-time employment during adolescence are consequences of work or are due to differential selection into the labor force. Students who are more inclined to use drugs before they enter the labor force may have less interest in school and be more likely to seek part-time work. This study examines the over-time relation between school-year employment and adjustment in a heterogeneous sample of approximately 1,800 high school sophomores and juniors. Analyses indicate both significant selection effects and negative consequences of employment. Before working, adolescents who later work more than 20 hours per week are less engaged in school and are granted more autonomy by their parents. However, taking on a job for more than 20 hours per week further disengages youngsters from school, increases delinquency and drug use, furthers autonomy from parents, and diminishes self-reliance. With respect to problem behaviors such as delinquency and substance use, the clearest effects occur at the transition into the labor force. Increasing the number of hours worked for adolescents who already have jobs does not result in dramatic increases in problem behaviors. Leaving the labor force after working long hours leads to improved school performance but does not reverse the other negative effects.

Walsh, D.C., R.E. Rudd, L. Biener, and T. Mangione. 1993. "Researching and Preventing Alcohol Problems at Work: Toward an Integrative Model." *American Journal of Health Promotion* 7(4):289-295.

The authors propose a consolidated framework to highlight modifiable factors in work organizations that may contribute to alcohol-related problems. This research model serves to organize existing knowledge, highlight pathways for new research initiatives, and offer insights into the design of primary and secondary preventive strategies. Current research on problem drinking in the workplace either locates problems in individual drinkers or looks to the social

environment to understand how drinking problems unfold. There is a clear need for a more complete theoretical model which incorporates social, cultural, organizational, and personal factors. This article elaborates on a model for examining problem drinking at work that integrates policy, normative, and psychosocial influences. It emphasizes the structures within which health-related decisions and actions are contained and constrained. The focus here on the connections between alcohol use and work builds on the premise that health is socially produced.

YOUTH DEVELOPMENT, STUDENT ASSISTANCE, AND TRANSITION INTO THE WORKPLACE

Maag, J.W., and A. Katsiyannis. 1998. "Challenges Facing Successful Transition for Youths with E/BD." *Behavioral Disorders* 23(4):209-221.

In 1990, the Individuals with Disabilities Education Act (IDEA) added a new mandate that the individualized education program for all students age 16 and older must include a statement of the transition services needed to prepare them for post-school activities. Providing transition services to youth with emotional or behavioral disorders (E/BD) has been particularly difficult because their problems are often intractable and, consequently, result in poor outcomes such as dropping out of school, unemployment, incarceration, and psychopathology. The authors described challenges involved in ensuring successful transition for youth with E/BD and make recommendations for improving transition services.

Milgram, G.G. 1998. "An Analysis of Student Assistance Programs: Connecticut, New Jersey, and New York." *Journal of Drug Education* 28(2):107-116.

A questionnaire, designed to determine the process for identifying and providing assistance to students who demonstrate a variety of problem behaviors that interfere with learning or co-curricular performance in school, was mailed to school superintendents (N = 1,526) in Connecticut, New Jersey, and New York. Four-hundred and fifty-one responses were received; the majority indicated that a formal written policy exists for helping students and most also have a formal written procedure. The assistance program, most frequently called student assistance, is predominantly found at the high school level. A full-time student assistance counselor paid by the school district or a grand funded position conducts the program. Students in the three states use the services of the program for alcohol problems, drug problems, family problems, school behavior problems, academic problems, etc. The major referral sources to the assistance programs are teachers, guidance counselors, and the students themselves. Survey findings indicated that assistance programs for students in Connecticut, New Jersey, and New York play a significant role in helping students who are experiencing problems and also positively impact on the school and the community.

Moore, D.D., and J.R. Forster. 1993. "Student Assistance Programs: New Approaches for Reducing Adolescent Substance Abuse." *Journal of Counseling and Development* 71(3):326-329.

In this article, the authors describe school-based Student Assistance Programs (SAPs), which are designed to reduce adolescents' substance abuse. SAPs, modeled after Employee

Assistance Programs (EAPs) in the workplace, are identifying, assessing, referring, and managing the cases of substance-abusing students. Adoption of the SAP model is accelerating in response to the growing need to address substance-impaired youth with resources from both the school and the community.

Schwiebert, V.L., K.A. Sealander, and M.L. Bradshaw. 1998. "Preparing Students with Attention Deficit Disorders for Entry into the Workplace and Postsecondary Education." *Professional School Counseling* 2(1):26-32.

Early intervention is necessary to minimize effects of attention deficit hyperactivity disorder (ADHD) in adolescence and adulthood. ADHD places youth at increased risk for substance abuse, school dropout, poor vocational achievement, social rejection by peers, oppositional behaviors, and delinquency. For these reasons, early identification and treatment of problem behaviors that indicate ADHD is important. Strategies for identifying preparation issues in high school and preparing these students for work or postsecondary education are provided by the authors. Characteristics of ADHD students are reviewed along with coexisting conditions, particularly academic underachievement.

Unger, D.D., and R. Luecking. 1998. "Work in Progress: Including Students with Disabilities in School-to-Work Initiatives." *Focus on Autism and Other Developmental Disabilities* 13(2):94-100.

Since the School-to-Work Opportunities Act (STWOA) was passed by Congress in 1994, 37 states and a host of localities have received federal grants to build systems that link learning in classrooms with the skills required by the nation's youth to succeed in the workplace. School-to-Work (STW) partnerships are forming in communities throughout the country, and thousands of schools, educators, employers, labor unions, community organizations, parent groups, and other stakeholders are participating in these partnerships. The purpose of this article is to provide a synopsis of the STWOA; describe what states and localities are doing to include youth with disabilities in STW initiatives; and offer recommendations to special educators, rehabilitation professionals, students with disabilities, and parents for increasing the participation of youth with disabilities in a wide range of STW activities.

FURTHER CONSIDERATIONS: YOUTH DEPRESSION PREVENTION AND TRANSITION INTO ADULTHOOD

Clarke, G.N., W. Hawkins, M. Murphy, L.B. Sheeber, P.M. Lewinsohn, and J.R. Seeley. 1995. "Targeted Prevention of Unipolar Depressive Disorder in an At-Risk Sample of High School Adolescents: A Randomized Trial of a Group Cognitive Intervention." *Journal of the American Academy of Child & Adolescent Psychiatry* 34(3):312-321.

Adolescent offspring of depressed parents are at high risk for development of depression. Cognitive restructuring therapy holds promise for preventing progression to depressive episodes. A randomized, controlled trial was conducted to prevent depressive episodes in at-risk offspring (aged 13 to 18 years) of adults treated for depression in a health maintenance organization (HMO). Potential adult cases were found by reviewing the HMO pharmacy records

for dispensation of antidepressant medication and the mental health appointment system. Eligible offspring had subdiagnostic depressive symptoms insufficient to meet full DSM-III-R criteria for affective disorder and/or a past mood disorder. These youth were randomized to usual HMO care (n = 49) or usual care plus a 15-session group cognitive therapy prevention program (n = 45). The authors detected significant treatment-by-time (program) effects for the Center for Epidemiological Studies Depression Scale (p = 0.005) and the Global Assessment of Functioning scores (p = 0.04). Survival analysis of incident major depressive episodes during a median 15-month follow-up found a significant advantage (p = 0.003) for the experimental condition (9.3 percent cumulative major depression incidence) compared with the usual-care control condition (28.8 percent). A brief, group cognitive therapy prevention program can reduce the risk for depression in the adolescent offspring of parents with a history of depression.

Rao, U., N.D. Ryan, B. Birmaher, R.E. Dahl, D.E. Williamson, J. Kaufman, R. Rao, and B. Nelson. 1995. "Unipolar Depression in Adolescents: Clinical Outcome in Adulthood." *Journal of the American Academy of Child & Adolescent Psychiatry* 34(5):566-578.

This study examined the longitudinal clinical course and adult sequelae of adolescent unipolar major depressive disorder (MDD) using a controlled longitudinal design. Subjects were 28 adolescents with systematically diagnosed unipolar MDD and 35 group-matched control subjects who participated in a cross-sectional electroencephalogram sleep and neuroendocrine study. Using standardized instruments, interviewers who were blind to subjects' initial diagnoses conducted follow-up clinical assessments 7 years later in 94 percent of the original cohort. The depressed group showed high rates of recurrence of MDD episodes during the interval period (69 percent). They also had elevated rates of new-onset bipolar disorder (19 percent). Twenty-three percent of subjects with an initial diagnosis of MDD had no additional depressive episodes after the index assessment. The rate of new onset of depression in the controls was 21 percent. Low socioeconomic status predicted recurrence of depressive episodes in the MDD group. MDD subjects with recurrence(s) and controls with new onset of depression during the follow-up period had significant psychosocial morbidity, as evidenced by disruption in interpersonal relationships and dissatisfaction with life and decrease in global functioning, compared with both MDD subjects with no further episodes and control subjects who had never been psychiatrically ill. These psychosocial deficits persisted after remission from depressive episode(s). Adolescent unipolar MDD predicts continued risk for recurrences with persistence of depressive episodes and psychosocial morbidity into adulthood. A sizable minority, however, have sustained periods of remission associated with good social adjustment.

Reinherz, H.Z., R.M. Giaconia, B. Pakiz, A.B. Silverman, A.K. Frost, and E.S. Lefkowitz. 1993. "Psychological Risks for Major Depression in Late Adolescence: A Longitudinal Community Study." *Journal of the American Academy of Child & Adolescent Psychiatry* 32(6):1155-1163.

An ongoing 14-year longitudinal study examined psychosocial antecedents of major depression in late adolescence in a community population. Subjects were 385 adolescents followed between the ages of 5 and 18 years. Early health, familial, behavior, academic, and environmental risks for major depression were identified using data collected at ages 5, 9, 15,

and 18 years. At age 18, a lifetime diagnosis of major depression was assessed using the NIMH Diagnostic Interview Schedule (DIS-III-R). For males, neonatal health problems, dependence problems at age 5 years, perceived unpopularity and poorer perceptions of their role in the family at age 9 years, remarriage of a parent, early family discord, and anxiety at age 15 years significantly increased the risk of developing major depression. Females with major depression, compared with nondepressed females, had older parents and came from larger families, and at age 9 years had greater perceived unpopularity and anxiety, lower self-esteem, and poorer perceptions of their role in the family. Depressed females also reported more stressful life events, including death of parent and pregnancy. Underscoring the importance of early psychosocial factors in the later development of major depression and pointing to specific risks, these findings can aid in developing strategies for prevention and early intervention.

Sheeber, L., H. Hops, A. Alpert, B. Davis, and J. Andrews. 1997. "Family Support and Conflict: Prospective Relations to Adolescent Depression." *Journal of Abnormal Child Psychology* 25(4):333-344.

The relations between family support, family conflict, and adolescent depressive symptomatology were examined longitudinally in a sample of 231 female and 189 male adolescents and their mothers. Structural equation models revealed that less supportive and more conflictual family environments were associated with greater depressive symptomatology both concurrently and prospectively over a 1-year period. Conversely, adolescent depressive symptomatology did not predict deterioration in family relationships. Depressive symptomatology and, to a greater extent, family characteristics showed high levels of stability over the 1-year period. Counter to expectations, the relations between family variables and depressive symptomatology were similar for boys and girls. The results suggest that the quality of family interactions is relevant for understanding the development of depressive symptoms in adolescents.